

SAFETY & HEALTH HAZARDS ALERT

Assistant Secretary for Environment, Safety & Health • U.S. Department of Energy • Washington, D.C. 20585

DOE/EH-0673

Issue No. 2003-01

August 2003

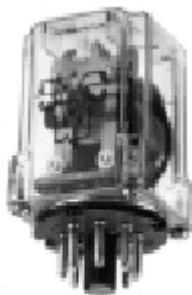
Potentially Defective Electrical Relays

Purpose

This advisory provides information on potentially defective electrical relays that may impact operations at Department of Energy facilities.

Background

Lawrence Berkeley National Laboratory personnel reported that a number of recently purchased electrical relays have internal defects. These relays are often used in safety interlock systems and control systems for complex equipment to indicate to operators SAFE or UNSAFE operating conditions. The relay defects cause contacts to short and can cause intermittent and erratic effects. Depending on how the relay is used, the relay defect may cause the relay to chatter, or can signal a SAFE operating state, even though an UNSAFE condition may exist. All defective relays found to date are labeled as made by Potter & Brumfield, a division of Tyco Electronics. The Potter and Brumfield part number is KRP14-DG-024.



KRP

These relays are three-pole, plastic-enclosed, plug-in relays. Defects were found in relays from date-coded batches as follows:

0309 (9th week of 2003)
0251 (51st week of 2002)
0231 (31st week of 2002)
0102 (2nd week of 2001)

A total of seven defective relays have been found. Four of the seven had never been in use. Several other manufacturers make almost identical relays, interchangeable with the Potter and Brumfield relay. This problem has only been found in relays labeled as Potter & Brumfield (see photographs on next page).

Implications

Potter and Brumfield relays may also be in storage or installed in equipment at other DOE sites. Depending on the application, use of these relays may adversely affect the safety and health of workers, the public, and the environment.

Actions to be Considered

Find any KRP14-DG-024 relays now in service. Where used in critical applications, do not operate the equipment until the relay is tested and inspected, or replace the relay with a known, good working relay. If in doubt, remove Potter and Brumfield electrical relays, part number KRP14-DG-024, from service and inventories.

Contacts

Please notify DOE Headquarters by filing an occurrence report in the Occurrence Reporting and Processing System if operating contractors find defective electrical relays in use or inventory, and their disposition.

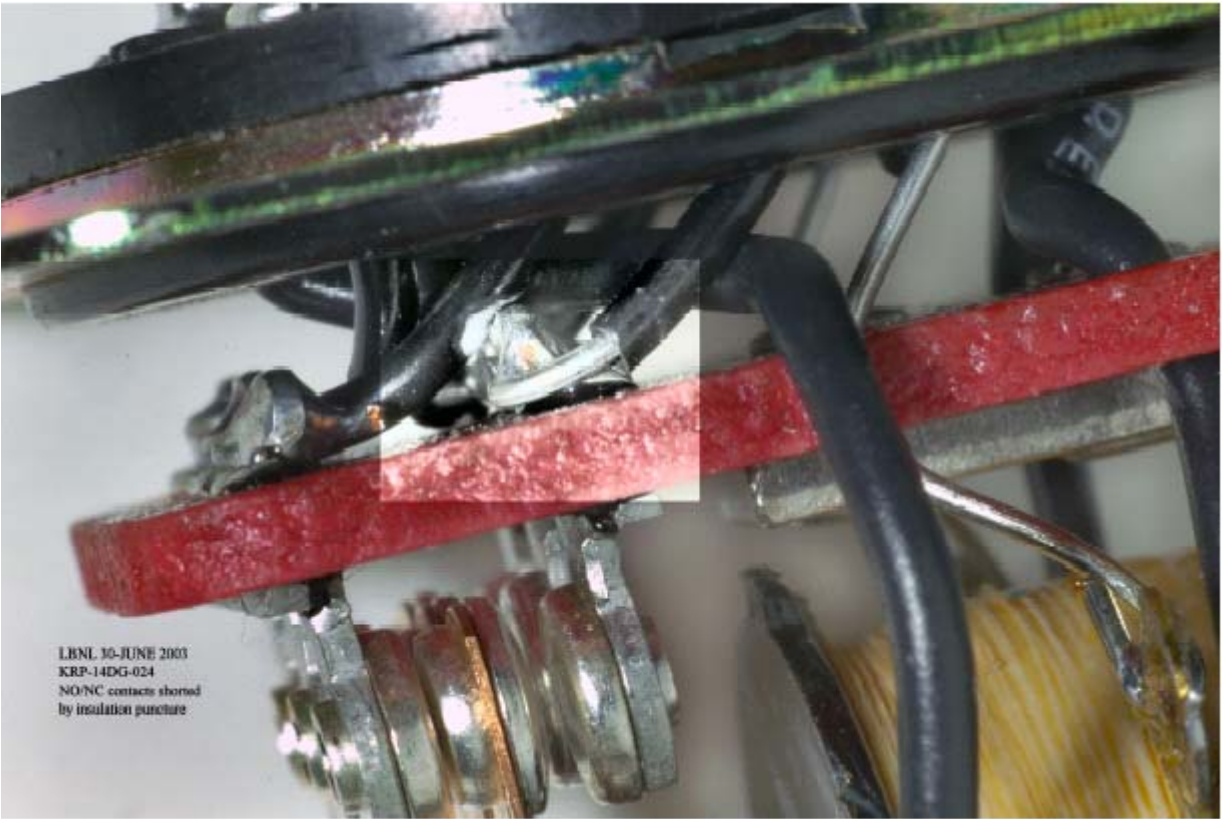


Photo 1 – Defective Potter and Brumfield part number KRP14-DG-024
NO/NC Contacts shorted by insulation puncture



Photo 2 – Defective Potter and Brumfield part number KRP14-DG-024
NO/NC Contacts shorted by insulation puncture